

CLAIMS

1-31. (Withdrawn)

32. (Currently Amended) A method for implementing a heartbeat protocol, comprising:
sending, directly to one or more selected servers, heartbeat messages from a single selected computer, indicating the availability of computer resources on one or more computers in a network associated with the single selected computer, such that loss of heartbeat messages from the single selected computer is indicative that all computer resources on the one or more computers are unavailable, and the presence of a heartbeat from the single selected computer is indicative that all computer resources are available;
generating a message by the single selected computer in accordance with the heartbeat protocol to indicate availability status of the one or more computer resources; and
~~imposing a minimum heartbeat period on the single selected computer based on reliability of the connection between the server and one or more computers in the group~~
providing an acknowledgement to the message by the single selected computer.

33. (Previously Presented) The method of claim 32 further comprising the step of the single selected computer requesting a new heartbeat rate, and upon agreement by the one or more selected servers to the new heartbeat rate, implementing the new heartbeat rate.

34. (Previously Presented) The method of claim 32 further comprising the step of the one or more selected servers imposing at any time a maximum rate at which the single selected computer may send heartbeats.

35. (Cancelled).

36. (Previously Presented) A method for implementing a heartbeat protocol, comprising:
sending, directly to one or more selected servers, heartbeat messages from a single selected computer, indicating the availability of computer resources on one or more computers in a network associated with the single selected computer, such that loss of heartbeat messages from the single selected computer is indicative that all computer resources on the one or more computers are unavailable, and the presence of a heartbeat from the single selected computer is indicative that all computer resources are available;

generating a message by the single selected computer in accordance with the heartbeat protocol to indicate availability status of the one or more computer resources; and

generating an acknowledgement of unavailability message by the server to the selected computer.

37. (Currently Amended) A method for implementing a heartbeat protocol, comprising:
directly receiving heartbeat messages sent by a single selected computer to one or more selected servers in a network associated with the single selected computer, the heartbeat messages indicating the availability of resources on one or more computers, such that loss of heartbeat from the single selected computer is indicative that all computer resources are unavailable, and the presence of a heartbeat from the selected computer is indicative that all computer resources are available;

generating a message by the single selected computer in accordance with the heartbeat protocol to indicate availability status of the one or more computer resources;

determining from the presence or absence of the heartbeat messages that all computer resources are available or unavailable, wherein acknowledgements of unavailability to computers that indicate unavailability are provided; and

providing a response to a message query for the computer resources for which the heartbeat is absent that the computer resources are unavailable.

38. (Previously Presented) The method of Claim 37, further comprising additional information associated with the response to the message query concerning the computer resources.

39. (Previously Presented) The method of Claim 37, further comprising providing additional information associated with the response to the message query concerning when the computer resources are expected to become available.

40. (Previously Presented) The method of claim 38, wherein the additional information provided comprises a text message.

41. (Previously Presented) The method of Claim 37, wherein the heartbeat is monitored by a primary master name server for a zone of communications network comprising the computer resources.

42. (Previously Presented) The method of Claim 37, wherein the heartbeat is generated by at least one computer within a domain name zone.

43. (Currently Amended) A method for implementing a heartbeat protocol comprising:
sending, directly to one or more selected servers, heartbeat messages from a single selected computer, indicating the availability of computer resources on one or more computers, such that loss of heartbeat messages from the single selected computer in a network associated with the single selected computer is indicative that all computer resources on the one or more computer are unavailable, and the presence of a heartbeat from the single selected computer is indicative that all computer resource on the one or more computer are unavailable, and the presence of a heartbeat from the single selected computer is indicative that all computers are available;
generating a message by the single selected computer in accordance with the heartbeat protocol to indicate the availability status of the one or more computer resources; and
transmitting the message to the one or more selected servers, wherein acknowledgements of unavailability to computers that indicate unavailability are provided.

44. (Currently Amended) A method for implementing a heartbeat protocol, comprising:
directly receiving heartbeat messages sent by a single selected computer to one or more selected servers in a network associated with the single selected computer, the heartbeat messages indicating the availability of resources on one or more computers, such that loss of heartbeat from the single selected computer is indicative that all computer resources are unavailable, and the presence of a heartbeat from the selected computer is indicative that all computer resources are available;

generating a message by the single selected computer in accordance with the heartbeat protocol to indicate availability status of the one or more computer resources;

transmitting the message to the one or more selected servers;

determining from the presence or absence of the heartbeat messages that all computer resources are available or unavailable, wherein acknowledgements of unavailability to computers that indicate unavailability are provided; and

providing a response to a message query for the computer resources for which the heartbeat is absent that the computer resources are unavailable; ~~and~~

~~imposing a minimum heartbeat period on the single selected computer based on reliability of the connection between the server and one or more computers in the group.~~